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LINK ADAPTATION UTILISING PERCEPTUAL IMAGE QUALITY METRICS BASED ON REGION OF INTEREST

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Abstract

An implicit link adaptation technique based on hybrid automatic repeat request (H-ARQ) using a soft-combining algorithm is considered for transmission of Joint Photographic Experts Group 2000 (JPEG2000) images over wireless channels. Adaptation is carried out using an objective perceptual quality metric that takes into account the human perception. Retransmissions based on Region of Interest (ROI) are used to efficiently utilize the bandwidth. Numerical results shows that the use of the proposed reduced-reference hybrid image quality metric (RR-HIQM) and ROI in link adaptation provides robust link performance while meeting saticfactory quality constraints.

Keywords : link adaptation, objective perceptual image quality metric, JPEG2000, region of interest